

Claims

1. A smoke filter comprising a first portion and a second portion, said first portion being closed against particulate material flow and said second portion providing a through path for particulate material flow, said first portion and said second portion being separated by barrier means, said barrier means having pores therein, which pores have a pore size of less than about 0.1 μm .
2. A smoke filter according to Claim 1, wherein the barrier means is porous to the vapour phase of smoke.
3. A smoke filter according to Claims 1 or 2, wherein said barrier means is formed from a flexible material.
4. A smoke filter according to Claims 1 or 2, wherein said barrier means is formed from a rigid material.
5. A smoke filter according to any one of the preceding claims, wherein said barrier means is formed from a vapour porous polymeric material.
6. A smoke filter according to Claim 5, wherein said polymeric material is selected from the group consisting of polypropylene, polyethylene, polyvinylidene fluoride, polyvinyl chloride, polycarbonate, nylon, TeflonTM (PTFE), cellulose acetate or nitrocellulose.
7. A smoke filter according to Claims 1-4, wherein said barrier means is a vapour porous ceramic material.
8. A smoke filter according to Claims 1-4, wherein said barrier means comprises a vapour porous paper.
9. A smoke filter according to any one of the preceding claims, wherein said first portion of the tobacco smoke filter comprises an adsorbent material.
10. A smoke filter according to Claim 9, wherein said adsorbent material is a general adsorbent.
11. A smoke filter according to Claim 10, wherein said general adsorbent is a carbonaceous material.
12. A smoke filter according to Claim 11, wherein said carbonaceous material is in the form of a thread, particles/granules, cloth, paper or a reconstituted carbon-containing sheet.

13. A smoke filter according to Claim 10, wherein said general adsorbent is a non-carbonaceous material selected from the group consisting of zeolite, silica, meerschaum, aluminium oxide or combinations thereof.
14. A smoke filter according to any one of Claims 1-8, wherein said first portion of said smoke filter comprises a catalyst.
15. A smoke filter according to Claim 14, wherein said catalyst facilitates the conversion of carbon monoxide (CO) to carbon dioxide (CO₂) in the vapour phase of the smoke.
16. A smoke filter according to Claim 15, wherein said catalyst is selected from the group consisting of transition metal oxides, silica, alumina, zeolites, impregnated carbon.
17. A smoke filter according to any one of Claims 1-8, wherein said first portion of said smoke filter comprises a selective adsorbent.
18. A smoke filter according to Claim 17, wherein said selective adsorbent material is selected from the group consisting of an ion-exchange resin, zeolite or silica.
19. A smoke filter according to Claim 1, wherein said first portion comprises an adsorbent and a catalyst.
20. A smoke filter according to any one of Claims 14-16, wherein said filter further comprises a third portion, which third portion comprises an adsorbent.
21. A smoke filter according to Claim 20, wherein said third portion is located upstream of said first portion of the filter.
22. A smoke filter according to any one of the preceding claims, wherein said second portion of said filter comprises a conventional smoke filtration material.
23. A smoke filter according to Claim 22, wherein said conventional smoke filtration material is one or more of cellulose acetate, paper and polypropylene.
24. A smoke filter according to any one of the preceding claims, wherein said first and said second portions are in co-axial alignment.
25. A smoke filter according to Claim 24, wherein said first portion forms an inner core and said second portion forms an outer annulus of a core-annulus arrangement.

26. A smoke filter according to Claim 24, wherein said second portion forms a core and said first portion forms an outer annulus of a core-annulus arrangement.
27. A smoke filter according to any one of claims 1-23, wherein said first portion is formed of a number of discrete, substantially longitudinal segments arranged in co-axial alignment within said second portion of said filter.
28. A smoke filter according to Claim 27, wherein each segment of said first portion is separated from said second portion by barrier means.
29. A smoke filter according to any one of the preceding claims, wherein said first portion is closed to the through flow of particulate phase material at the upstream end thereof.
30. A smoke filter according to Claim 29, wherein closure of said first portion is achieved by a plug.
31. A smoke filter according to Claim 30, wherein said plug is formed from a high pressure drop cellulose acetate, plastic, metal or the barrier material described of claims 3-8.
32. A smoke filter according to any one of the preceding claims, wherein said filter further comprises additional portions of conventional smoke filtration material.
33. A smoke filter according to Claim 32, wherein said first, second and third (if present) portions are in co-axial alignment with at least one additional filter portion.
34. A smoke filter according to Claim 33, wherein said additional portion of said filter is in end-to end abutment with said first, second and third (if present) portions of the filter.
35. A smoke filter according to any one of claims 32-34, wherein said additional portion is comprised of cellulose acetate.
36. A smoking article comprising a smoke filter according to any one of claims 1-35 in combination with a rod of smoking material wrapped in a wrapper.
37. A smoking article according to Claim 36, wherein said smoking material comprises a flavourant.
38. A smoking article according to Claim 37, wherein said flavourant is in stabilised or encapsulated form.

39. A smoking article according to Claim 37, wherein said flavourant is a non-volatile flavourant.
40. A smoke filter substantially as hereinabove described with reference to the diagrammatic drawings hereof.